Mix polythiol monomers in the presence of an excess of polyvinyl monomers



Photopolymerize to form polyvinyl oligomers

Mix polyvinyl monomers in the presence of an excess of polythiol monomers



Photopolymerize to form polythiol oligomers





Mix polyvinyl oligomers and polythiol oligomers to obtain a first mixture



Mix the first mixture with one or more fillers and a photoinitiator to form a second mixture



Package the second mixture in a container based on the color of the one or more fillers



Dispense the second mixture and shape into a dental prosthesis



Dispense the second mixture and shape into a dental prosthesis; then photopolymerize

FIGURE 1

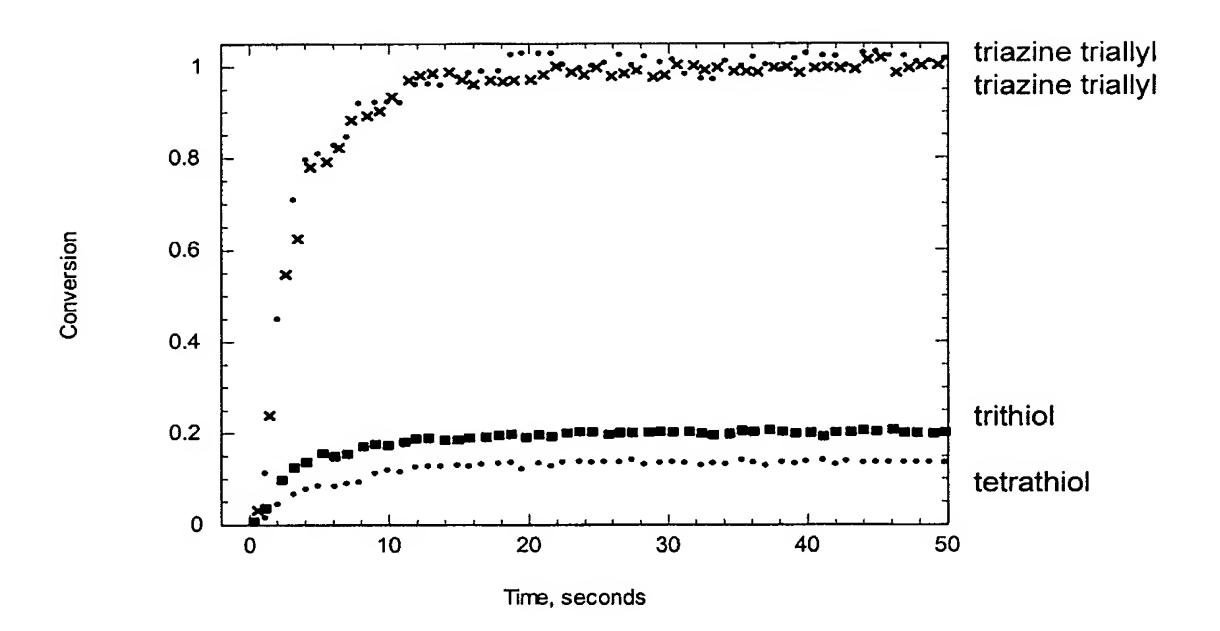


FIGURE 2

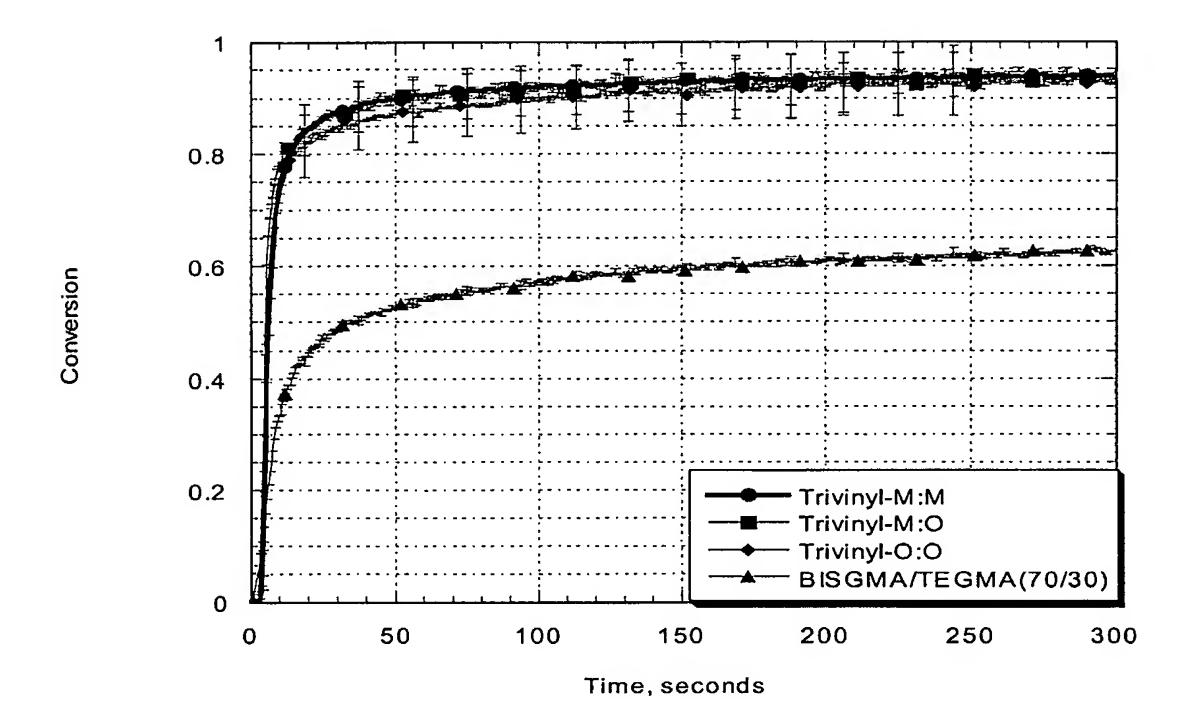
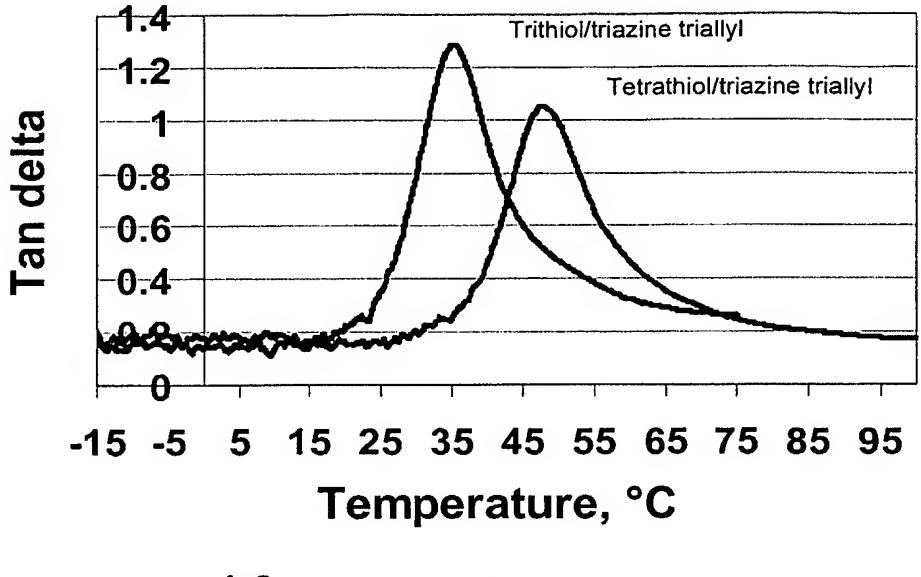


FIGURE 3



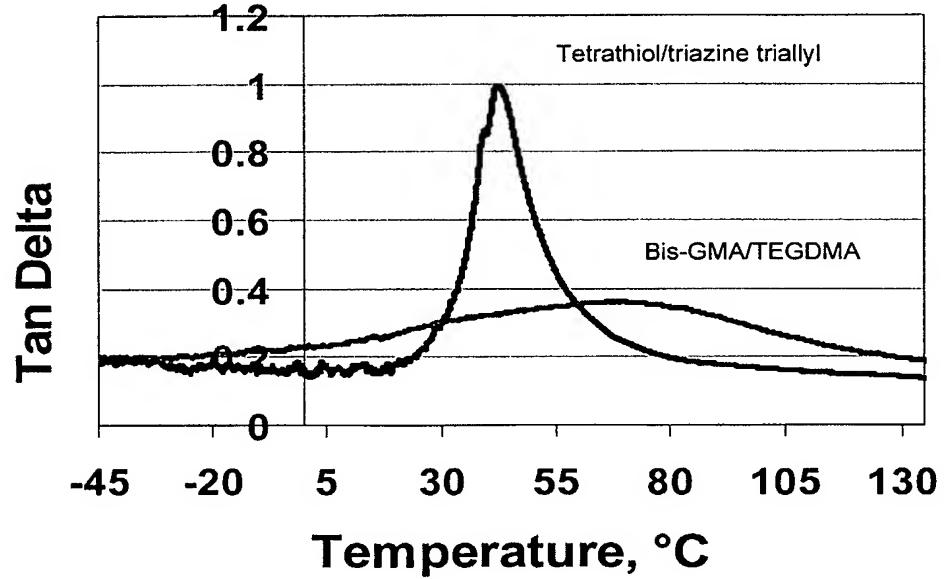


FIGURE 4

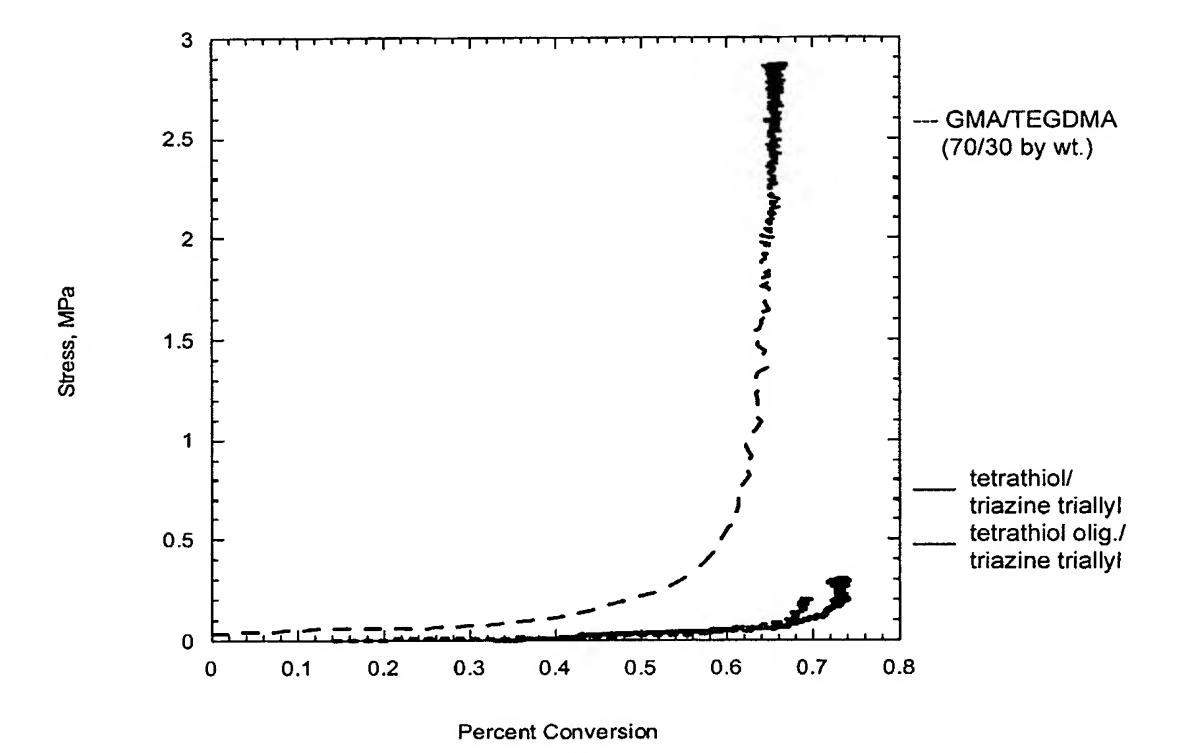


FIGURE 5

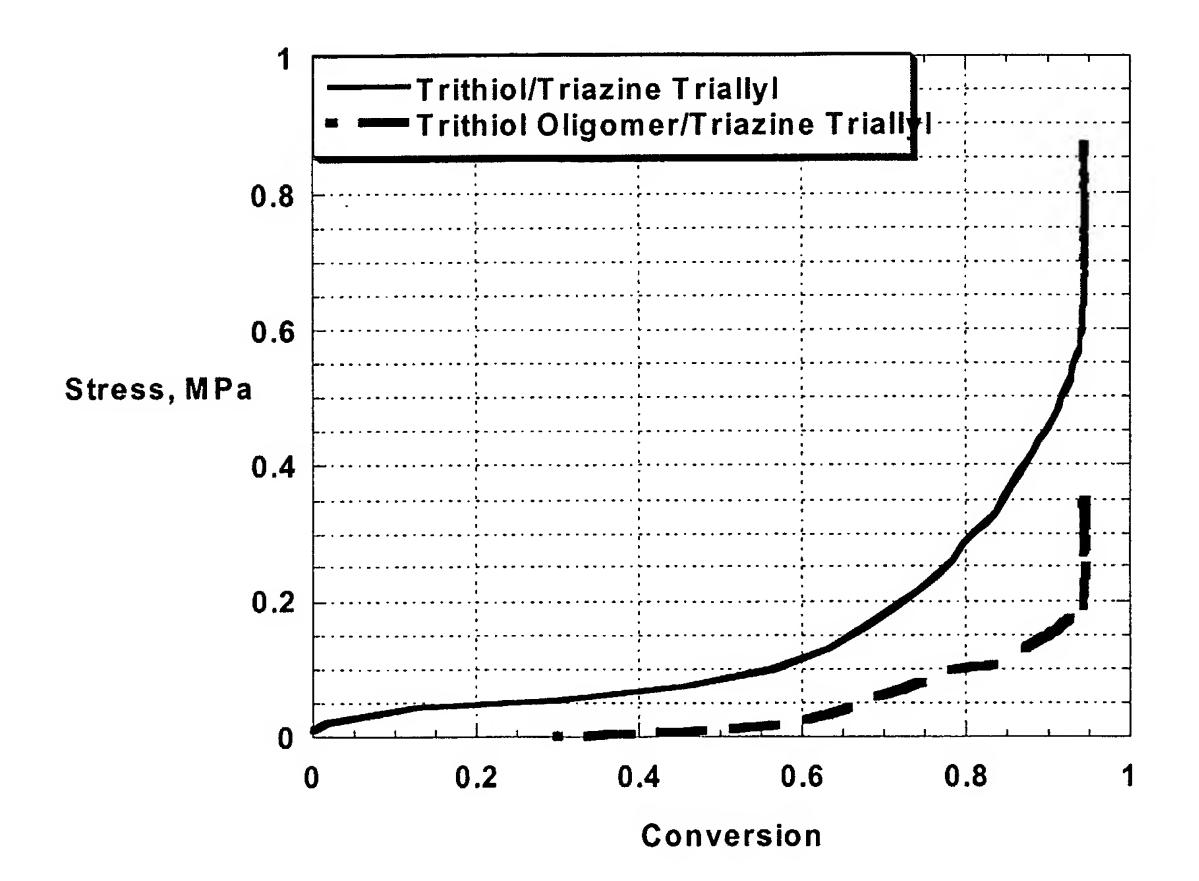


FIGURE 6

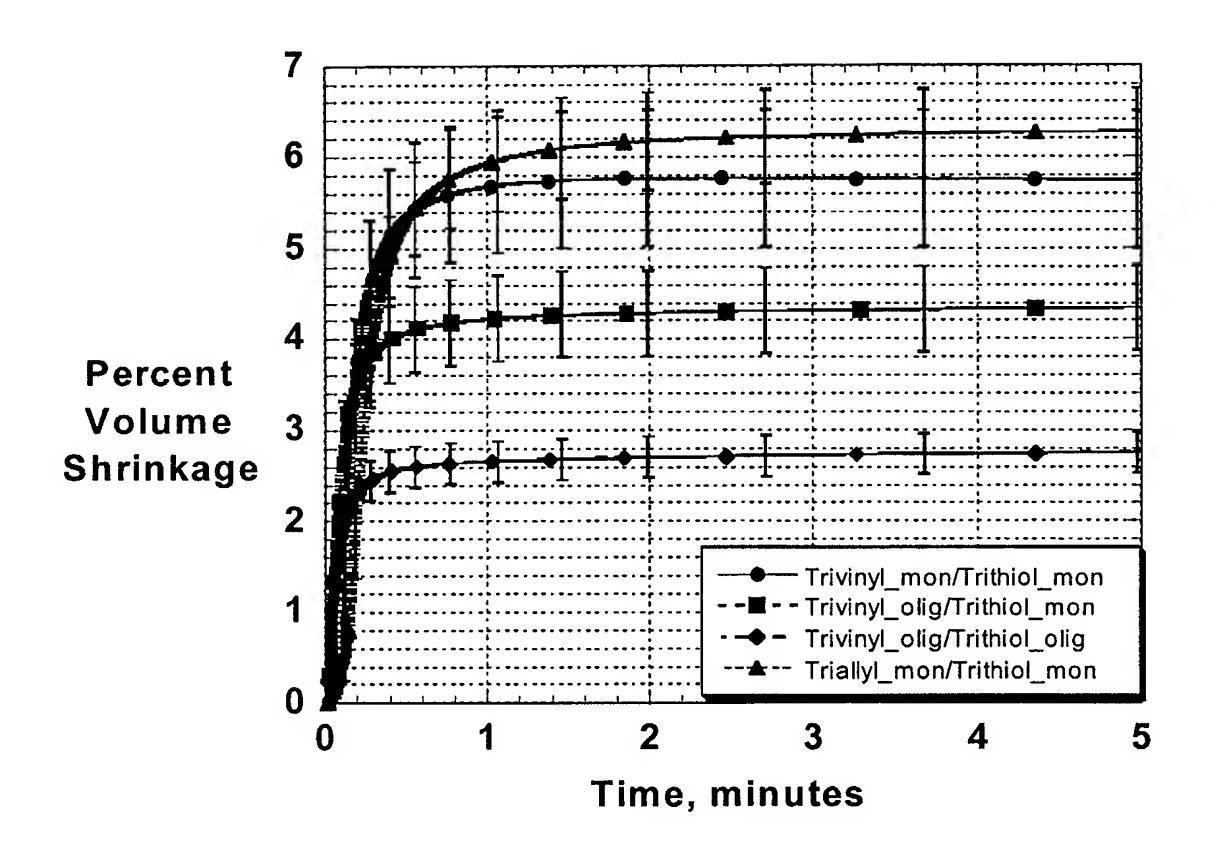


FIGURE 7

	thiol	thiol	ene
ene monomer	monomer	conversion	conversion
triallyl	trithiol	95.2 ± 2.7	97.6 ± 2.9
O-triallyl	trithiol	87.3 ± 2.7	94.5 ± 1.8
trivinyl	trithiol	96.6 ± 1.5	93.8 ± 0.8
O-trivinyl	trithiol	95.7 ± 5.8	95.1 ± 4.5
O-trivinyl	O-trithiol	81.3 ± 0.4	85.8 ± 5.6
triazine triallyl	trithiol	81.4 ± 1.6	95.5 ± 0.8
triazine triallyl	O-trithiol	86.1 ± 1.4	84.5 ± 2.20
triazine triallyl	tetrathiol	74.2 [±] 1.1	88.9 ± 2.1
triazine triallyl	O-tetrathiol		

FIGURE 8A

ene monomer	thiol monomer	Percent Volume Shrinkage
triallyl	trithiol	6.53 ± 0.58
trivinyl	trithiol	5.71 ± 0.75
O-trivinyl	trithiol	4.02 ± 0.18
O-trivinyl	O-trithiol	2.53 ± 0.40
triazine triallyl	trithiol	7.2 ± 0.16
triazine triallyl	O-trithiol	3.33 ± 0.62
triazine triallyl	tetrathiol	6.07 ± 0.58
triazine triallyl	O-tetrathiol	2.76 0.41

FIGURE 8B

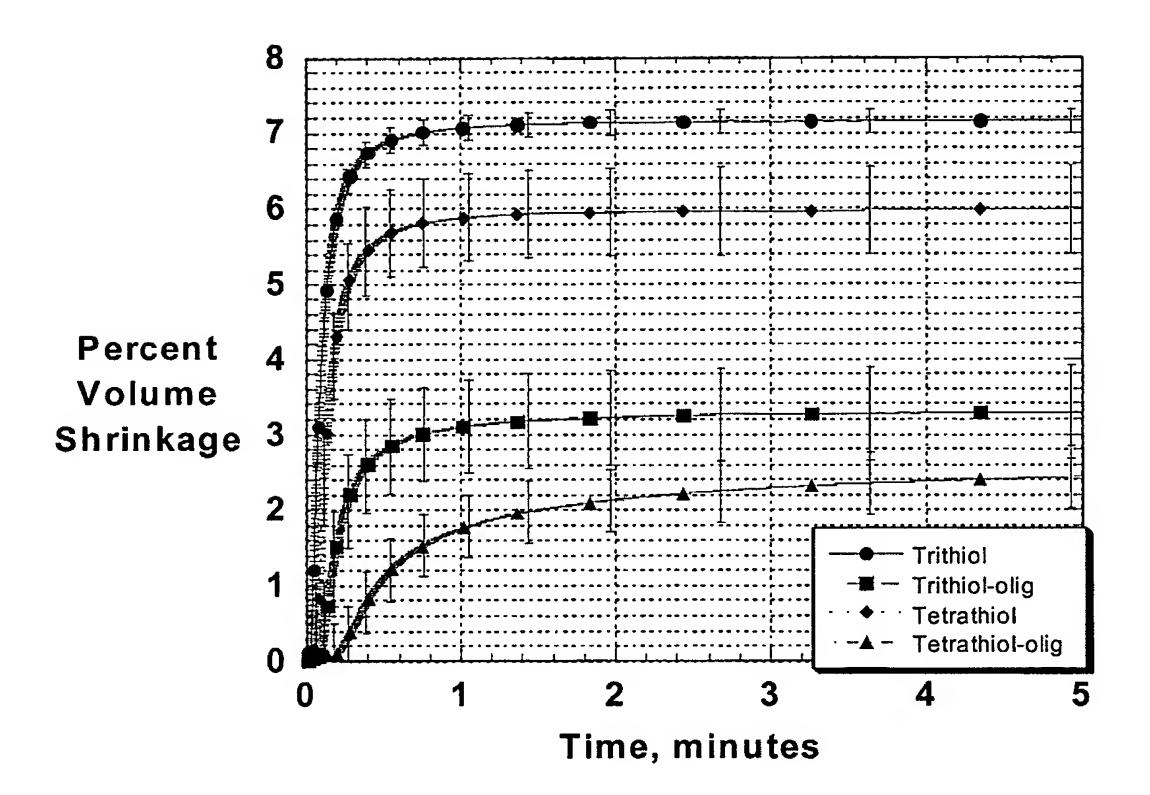


FIGURE 9